CHAPTER 5
AIR QUALITY ELEMENT

1.0 INTRODUCTION

The Air Quality Element is not required by State law, but has been included in the General Plan because of the detrimental effect poor air quality has on public health and welfare. The Air Quality Element is intended to protect the public's health by implementing measures that assist the South Coast Air Basin in meeting Federal and State air quality standards. To achieve this, the Element sets forth a number of programs to reduce current pollution emissions, to require new development to include measures to comply with air quality standards, and contains provisions to address new air quality requirements.

2.0 AUTHORITY FOR THE ELEMENT

California Government Code Sections 65302(d) and 65303 provide the statutory authority that allows cities to include any other element or address any other subjects that may relate to the physical development of the city, including Air Quality. Further guidance is provided in the 2003 *General Plan Guidelines* regarding the assessment of air quality impacts in General Plans.[1]

3.0 REGULATORY FRAMEWORK

Regulatory oversight for air quality in the South Coast Air Basin (Basin) rests with the South Coast Air Quality Management District (SCAQMD) at the regional level, the California Air Resources Board (CARB) at the State level, and the U.S. Environmental Protection Agency (EPA) Region IX office at the Federal level.

3.1 U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) is responsible for implementing the Federal Clean Air Act, which was first enacted in 1955 and amended numerous times after. The Federal Clean Air Act established Federal air Quality standards known as the National Ambient Air Quality Standards. These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants are ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2, which is a form of nitrogen oxides [NO_X]), sulfur dioxide (SO_2, which is a form of sulfur oxides [SO_X]), particulate matter less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$, respectively) and lead (Pb); refer to *Table AQ-1, Ambient Air Quality Standards and Attainment Status*.

1. Source: State of California, Governor's Office of Planning and Research, *2003 General Plan Guidelines*, October 2003, page 102.

EPA designates areas within the nation as either attainment or nonattainment for each criteria pollutant based on whether the National Ambient Air Quality Standards have been achieved. An area is designated as nonattainment for a pollutant if air quality data show that the National Ambient Air Quality Standards for the pollutant was violated at least once during the previous three calendar years. Exceedances affected by highly irregular or infrequent events are not considered violations of a federal standard, and are not used as a basis for designating areas as nonattainment. The Basin is designated as a Federal nonattainment area for O_3, CO, PM_{10}, and $PM_{2.5}$. Ozone is designated as severe for the 8-hour average while CO and PM_{10} are designated as serious nonattainment. $PM_{2.5}$ is simply nonattainment. The air Basin is also designated as an attainment area for NO_2, SO_2, and Pb; refer to *Table AQ-1* for Federal attainment status.

The Federal Clean Air Act also specifies future dates for achieving compliance with the National Ambient Air Quality Standards and mandates that states develop State Implementation Plans to manage the attainment, maintenance, and enforcement of the National Ambient Air Quality Standards. State Implementation Plans provide detailed descriptions of the programs a state will use to carry out its responsibilities under the Federal Clean Air Act. State Implementation Plans are collections of the regulations used by a state to reduce air pollution. A State Implementation Plan shows how a state would meet the National Ambient Air Quality Standards by its attainment dates. The Federal Clean Air Act requires that EPA approve each State Implementation Plan.

3.2 California Air Resources Board

The 1988 California Clean Air Act requires that all air districts in the State endeavor to achieve and maintain California Ambient Air Quality Standards for ozone (O_3), carbon monoxide (CO), sulfur oxides (SO_2), and nitrogen oxides (NO_2) by the earliest practical date. The California Clean Air Act specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources. The Act also gives districts new authority to regulate indirect sources. Each district plan is to achieve a five-percent annual reduction (averaged over consecutive three-year periods) in district-wide emissions of each non-attainment pollutant or its precursors. Any additional development within the region would impede the "no net" increase prohibition, in that further emissions reductions must be affected from all other airshed sources to fit any project development mobile source emissions increase.

A strict interpretation of the "no net" increase prohibition suggests that any general development within the region, no matter how large or small, would have a significant, project-specific air quality impact unless the development-related emissions are offset by concurrent emissions reduction elsewhere within the airshed. Any planning effort for air quality attainment would thus need to consider both State and Federal planning requirements.

Table AQ-1
Ambient Air Quality Standards and Attainment Status

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[4]	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m³)	**Extreme Nonattainment**	NA[5]	NA[5]
	8 Hours	0.07 ppm (137 µg/m³)	Unclassified	0.08 ppm (157 µg/m³)	**Severe Nonattainment**
Particulate Matter (PM_{10})	24 Hours	50 µg/m³	**Nonattainment**	150 µg/m³	**Serious Nonattainment**
	Annual Arithmetic Mean	20 µg/m³	**Nonattainment**	50 µg/m³	**Serious Nonattainment**
Fine Particulate Matter ($PM_{2.5}$)	24 Hours	No Separate State Standard		35 µg/m³	**Nonattainment**
	Annual Arithmetic Mean	12 µg/m³	**Nonattainment**	15 µg/m³	**Nonattainment**
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 µg/m³)	Attainment	9 ppm (10 µg/m³)	**Nonattainment[6]**
	1 Hour	20 ppm (23 µg/m³)	Attainment	35 ppm (40 µg/m³)	**Nonattainment[6]**
Nitrogen Dioxide[7] (NO_2)	Annual Arithmetic Mean	N/A	N/A	0.053 ppm (100 µg/m³)	Attainment
	1 Hour	0.18 ppm (338 µg/m³)	Attainment	N/A	N/A
Lead (Pb)	30 days average	1.5 µg/m³	Attainment	N/A	N/A
	Calendar Quarter	N/A	N/A	1.5 µg/m³	Attainment
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	N/A	N/A	0.030 ppm (80 µg/m³)	Attainment
	24 Hours	0.04 ppm (105 µg/m³)	Attainment	0.14 ppm (365 µg/m³)	Attainment
	3 Hours	N/A	NA	N/A	Attainment
	1 Hour	0.25 ppm (655 µg/m³)	Attainment	N/A	N/A
Visibility-Reducing Particles	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	**No Federal Standards**	
Sulfates	24 Hour	25 µg/m³	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/ m³)	Unclassified		

µg/m³ = micrograms per cubic meter; ppm = parts per million; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable.

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter-PM_{10} and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. In 1990, California Air Resources Board identified vinyl chloride as a toxic air contaminant, but determined that there was not sufficient available scientific evidence to support the identification of a threshold exposure level. This action allows the implementation of health-protective control measures at levels below the 0.010 ppm ambient concentration specified in the 1978 standard.
2. National standards (other than ozone, particulate matter and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The Environmental Protection Agency also may designate an area as *attainment/unclassifiable*, if: (1) it has monitored air quality data that show that the area has not violated the ozone standard over a three-year period; or (2) there is not enough information to determine the air quality in the area. For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over the three years, are equal to or less than the standard. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentration is expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5. The Federal 1- hour ozone standard was revoked on June 15, 2005.
6. Technically, the Basin is in attainment for CO, but has not been redesignated by the Environmental Protection Agency.
7. The NO_2 ambient air quality standard was amended on February 22, 2007, to lower the 1-hour standard to 0.18 ppm and establish a new annual standard of 0.030 ppm. These changes become effective after regulatory changes are submitted and approved by the Office of Administrative Law, expected later this year.

Source: California Air Resources Board and Environmental Protection Agency, February 22, 2007.

The CARB administers the air quality policy in California. The California Ambient Air Quality Standards were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the National Ambient Air Quality Standards in *Table AQ-1*, are generally more stringent and apply to more pollutants than the National Ambient Air Quality Standards. In addition to the criteria pollutants, the California Ambient Air Quality Standards have been established for visibility reducing particulates, hydrogen sulfide, and sulfates. The California Clean Air Act requires that each local air district prepare and maintain an air quality management plan to achieve compliance with the California Ambient Air Quality Standards. These air quality management plans also serve as the basis for preparation of the State Implementation Plan for the State of California.

State Air Toxics Program

Toxic air contaminants are another group of pollutants of concern in Southern California. There are hundreds of different types of toxic air contaminants, with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle engine exhaust. Public exposure to toxic air contaminants can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset spill conditions. Health effects of toxic air contaminants include cancer, birth defects, neurological damage and death.

California regulates toxic air contaminants through its air toxics program, mandated in Chapter 3.5 (Toxic Air Contaminants) of the Health and Safety Code (H&SC Section 39660 et. seq.) and Part 6 (Air Toxics "Hot Spots" Information and Assessment) (H&SC Section 44300 et. seq.). The CARB, working in conjunction with the State Office of Environmental Health Hazard Assessment, identifies toxic air contaminants. Air toxic control measures may then be adopted to reduce ambient concentrations of the identified toxic air contaminant to below a specific threshold, based on its effects on health, or to the lowest concentration achievable through use of best available control technology for toxics. The program is administered by the CARB. Air quality control agencies, including the SCAQMD, must incorporate air toxic control measures into their regulatory programs or adopt equally stringent control measures as rules within six months of adoption by the CARB.

3.3 South Coast Air Quality Management District

Glendora is located in the South Coast Air Basin, which is under the jurisdiction of the SCAQMD. The SCAQMD has jurisdiction of 10,743 square miles, which includes counties of Orange, Riverside, San Bernardino, the non-desert portions of Los Angeles, and portions of the Salton Sea Air Basin and Mojave Desert Air Basin. The SCAQMD is one out of 35 air quality management districts that have prepared air quality management plans to accomplish a five-percent annual reduction in emissions. The most recent air quality management plan was adopted in 2003.

The *2003 Air Quality Management Plan for the South Coast Air Basin* (*2003 Air Quality Management Plan*) proposes policies and measures to achieve Federal and State standards for improved air quality in the Basin and those portions of the Salton Sea Air Basin (formerly named the Southeast Desert Air Basin) that are under SCAQMD jurisdiction. The *2003 Air Quality Management Plan* requires:

- Emissions-reducing activities, control technology for existing sources;
- Control programs for area sources and indirect sources; a SCAQMD permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Transportation control measures; and
- Demonstration of compliance with the CARB's established reporting periods of compliance with air quality goals.

The *2003 Air Quality Management Plan* is consistent with and builds upon the approaches taken in the *1997 Air Quality Management Plan* and the *1999 Amendments to the Ozone State Implementation Plan* for the Basin for the attainment of the Federal ozone air quality standard. However, the *2003 Air Quality Management Plan* points to the urgent need for additional emission reductions (beyond those incorporated in the 1997/99 Plan) to offset increased emission estimates from mobile sources and to meet all Federal criteria pollutant standards within the time frames allowed under the Federal Clean Air Act.

The SCAQMD also adopts rules to implement portions of the *2003 Air Quality Management Plan*. Several of these rules may apply to construction or operation of a project. For example, Rule 403 require that projects implement best available fugitive dust control measures during active construction operations. Rule 401 provides rules during onsite earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads.

Rules and regulations are also provided for long-term operation of a project. Some of these rules include Rules 201, 202, and 203 which requires permits for certain stationary sources that may be part of a project (e.g., heaters and generators). Other rules such as Regulations XIII or Regulation XXX, which, among other things requires that Best Available Control Technology (BACT) is utilized to reduce pollutants and ensure that any increases of criteria air pollutants be offset by achieving equivalent emission reductions at a facility within the Basin.

Currently the SCAQMD is in the process of developing the *2007 Air Quality Management Plan*. The *2007 Air Quality Management Plan* incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes and new air quality modeling tools. The *2007 Air Quality Management Plan* includes new information on key elements such as:

- Current air quality;
- Improved emission inventories, especially significant increase in mobile source emissions;
- An overall control strategy comprised of: Stationary and Mobile Source Control Measures, SCAQMD, and State, and Federal Stationary and Mobile Source Control Measures; and the Southern California Association of Governments Regional Transportation Strategy and Control Measures;
- New attainment demonstration for $PM_{2.5}$ and ozone;

- Milestones to the federal Reasonable Further Progress (RFP) Plan; and
- Preliminary motor vehicle emission budgets for transportation conformity purposes.

A draft of the *2007 Air Quality Management Plan* is now available at the SCAQMD website. As of May 2007, it is not yet known when the latest Air Quality Management Plan would be adopted.

In addition to the *2003 Air Quality Management Plan* and its rules and regulations, the SCAQMD published the *CEQA Air Quality Handbook* (*Handbook*). The *Handbook* provides guidance to assist local government agencies and consultants in developing the environmental documents required by the California Environmental Quality Act (CEQA). With the help of the *Handbook*, local land use planners and other consultants are able to analyze and document how proposed and existing projects affect air quality and should be able to fulfill the requirements of the CEQA review process. The SCAQMD is in the process of developing the Air Quality Analysis Guidance Handbook to replace the *Handbook* approved by the Air Quality Management District Governing Board in 1993.

In 2003, the SCAQMD developed localized significance threshold methodology that can be used to determine whether or not a project may generate significant adverse localized air quality impacts. Localized significance thresholds represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standards and are developed based on the ambient concentrations of that pollutant for each Source Receptor Area. For the localized significance threshold, the City of Glendora is located in Source Receptor Area 9 (East San Gabriel Valley). The SCAQMD's *Final Localized Significance Threshold Methodology* guidance document provides mass rate look-up tables in Appendix C, which allows a user to determine if the daily emissions for proposed construction could result in significant localized air quality impacts.

Environmental Justice

California state law defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.[2] The SCAQMD's environmental justice program is comprised of ten environmental justice initiatives designed to protect district residents' right to live and work in an environment of clean air that is free of airborne health threats. The program also includes 23 enhancements that serve to further outreach and problem-solving activities regarding environmental justice issues. The SCAQMD's *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, which has been used as a guide for preparing this Air Quality Element, is one of the 23 program enhancements and is intended to help reduce health risks associated with exposure to air pollution.

2. *California Government Code* Section 65040.12.

3.4 Southern California Association Of Governments

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and serves as a forum for regional issues relating to transportation the economy, community development and the environment. SCAG serves as the Federally designated metropolitan planning organization (MPO) for the southern California region and is the largest MPO in the United States. With respect to air quality planning, SCAG has prepared the Regional Comprehensive Plan and Guide (RCPG) for the region, which includes Growth Management and Regional Mobility chapters that form the basis for the land use and transportation control portions of the *2003 Air Quality Management Plan*. SCAG is responsible under the Federal Clean Air Act for determining conformity of projects, plans, and programs with the SCAQMD *2003 Air Quality Management Plan*. As indicated in the SCAQMD *Handbook*, there are two main indicators of consistency:

- The project would not increase the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the *2003 Air Quality Management Plan*; and

- The project would not exceed the *2003 Air Quality Management Plan's* assumptions for 2020 or increments based on the year of project buildout and phase.

Regional Transportation Plan

Destination 2030 is the *2004 Regional Transportation Plan* (RTP) (adopted in April 2004) for the six county region in Southern California including Los Angeles, Orange, San Bernardino, Riverside, Ventura and Imperial counties. The RTP is the culmination of a three-year effort with a focus on improving the balance between land use and the current as well as future transportation systems. SCAG is required to develop, maintain and update the RTP on a three-year cycle. The RTP provides the basic policy and program framework for long-term investment in our vast regional transportation system in a coordinated, cooperative and continuous manner. The RTP identifies major challenges, such as declining air quality due to increases in vehicle miles traveled and congestion, as well as potential opportunities associated with growth, transportation finances, the future of airports in the region, and impending transportation system deficiencies that could result from unprecedented growth anticipated in the region.

Regional Transportation Improvement Program

Transportation investments in the SCAG Region that receive State or Federal transportation funds must be consistent with the RTP and must be included in the Regional Transportation Improvement Program when ready for funding. The *2006 Final Regional Transportation Improvement Program* (RTIP) is a capital listing of all transportation projects proposed over a six-year period for the SCAG. The projects include highway improvements, transit, rail and bus facilities, high occupancy vehicle lanes, signal synchronization, intersection improvements, freeway ramps, etc. These projects constitute a

large investment of public funds. As Southern California's air quality problems are tied to the region's transportation systems, many of these projects are directly related to improving regional air quality.

SCAG develops the RTIP based on consistency with the current RTP, inter-county connectivity, financial constraints, and conformity satisfaction using lists of projects submitted by each county. Under State law, County Transportation Commissions have the responsibility of proposing and prioritizing county projects, using the current RTP's policies, programs, and projects as a guide, from among submittals by cities and local agencies.

3.5 Global Climate Change Regulatory Programs

Kyoto Protocol

The original Kyoto Protocol was negotiated in December 1997 and came into effect on February 16, 2005. As of December 2006, 169 countries have ratified the agreement with the exception of the United States and Australia. Participating nations are separated into Annex 1 (i.e., industrialized countries) and Non-Annex 1 (i.e., developing countries) countries that have different requirements for greenhouse gas reductions. The goal of the Protocol is to achieve overall emissions reduction targets for six greenhouse gases by the period of 2008 to 2012. The six greenhouse gases regulated under the Protocol are carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, Hydrofluorocarbons, and Perfluorocarbons. Each nation has an emissions reduction target for which they must reduce greenhouse gas emissions a certain percentage below 1990 levels (e.g., 8 percent reduction for the European Union, 6 percent reduction for Japan). The average reduction target for nations participating in the Kyoto Protocol is approximately 5 percent below 1990 levels. Although the United States has not ratified the Protocol, it has established an 18 percent reduction in greenhouse gas emissions intensity by 2012. Greenhouse gas intensity is the ratio of greenhouse gas emissions to economic output (i.e., gross domestic product).

AB 1493

In a response to the transportation sector accounting for more than half of California's carbon dioxide (CO_2) emissions, Assembly Bill 1493 (AB 1493, Pavley) was enacted on July 22, 2002. AB 1493 required the CARB to set greenhouse gas emission standards for passenger vehicles, light duty trucks, and other vehicles determined to be vehicles whose primary use is noncommercial personal transportation in the state. The bill required that the CARB set the greenhouse gas emission standards for motor vehicles manufactured in 2009 and all subsequent model years. In setting these standards, the CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. The CARB adopted the standards in September 2004. These standards are intended to reduce emissions of carbon dioxide and other greenhouse gases (e.g., nitrous oxide, methane). The new standards would phase in during the 2009 through 2016 model years. When fully phased in, the near term (2009 to 2012) standards will result in about a 22 percent reduction in greenhouse gas emissions compared to the emissions from the 2002 fleet, while the midterm (2013 to 2016) standards will result in a reduction of about 30 percent. Some currently used

technologies that achieve greenhouse gas reductions include small engines with superchargers, continuously variable transmissions, and hybrid electric drive.

Executive Order S-3-05

In June 2005, Governor Schwarzenegger established California's greenhouse gas emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: Greenhouse gas emissions should be reduced to 2000 levels by 2010; greenhouse gas emissions should be reduced to 1990 levels by 2020; and greenhouse gas emissions should be reduced to 80 percent below 1990 levels by 2050. The Secretary of the California Environmental Protection Agency (the Secretary) is required to coordinate efforts of various agencies in order to collectively and efficiently reduce greenhouse gases. Some of the agencies involved in the greenhouse gas reduction plan include Secretary of Business, Transportation and Housing Agency, Secretary of Department of Food and Agriculture, Secretary of Resources Agency, Chairperson of CARB, Chairperson of the Energy Commission, and the President of the Public Utilities Commission. The Secretary is required to submit a biannual progress report to the Governor and State Legislature disclosing the progress made toward greenhouse gas emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, the coastline, and forestry and report possible mitigation and adaptation plans to combat these impacts.

Assembly Bill 32

The Legislature enacted Assembly Bill 32 (AB 32, Nunez), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006 to further the goals of Executive Order S-3-05. AB 32 represents the first enforceable statewide program to limit greenhouse gas emissions from all major industries with penalties for noncompliance. The CARB has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. The foremost objective of the CARB is to adopt regulations that require the reporting and verification of statewide greenhouse gas emissions. This program will be used to monitor and enforce compliance with the established standards. The first greenhouse gas emissions limit is equivalent to the 1990 levels, which are to be achieved by 2020. The CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost effective greenhouse gas emission reductions.

AB 32 allows the CARB to adopt market based compliance mechanisms to meet the specified requirements. Finally, the CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market based compliance mechanism adopted. In order to advise the CARB, it must convene an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee. By January 2008, the first deadline for AB 32, a statewide cap for 2020 emissions based on 1990 levels must be adopted. The following year (January 2009), the CARB must adopt mandatory reporting rules for significant sources of greenhouse gases and also a plan indicating how reductions in significant greenhouse gas sources will be achieved through regulations, market mechanisms, and other actions.

Executive Order S-1-07

On January 18, 2007, California further solidified its dedication to reducing greenhouse gases by setting a new Low Carbon Fuel Standard for transportation fuels sold within the state. Executive Order S-1-07 sets a declining standard for greenhouse gas emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020. The Low Carbon Fuel Standard applies to refiners, blenders, producers, and importers of transportation fuels and will use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods. The Executive Order requires the Secretary of the California Environmental Protection Agency to coordinate with actions of the California Energy Commission, the CARB, the University of California, and other agencies to develop a protocol to measure the "life cycle carbon intensity" of transportation fuels. The CARB is anticipated to complete its review of the Low Carbon Fuel Standard protocols no later than June 2007 and implement the regulatory process for the new standard by December 2008.

4.0 SUMMARY OF EXISTING CONDITIONS

Air quality conditions in Glendora are influenced by many factors, including the topography, climate and pollution sources. This section examines these issues and historical pollution levels in the community, as compared to State and Federal air quality standards.

4.1 Climate

Glendora is located within the South Coast Air Basin (Basin). This Basin is a 6,600 square mile area that includes all of Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties. The Basin is topographically bounded by the Pacific Ocean to the west with the San Gabriel, San Bernardino and San Jacinto mountains to the north and east.

The topography and climate of southern California combine to make the Basin an area predisposed to air pollution problems. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and prevents pollutants from dispersing upward and allows pollutants to accumulate within the lower layer. This situation is called a temporary inversion. In addition, light winds during the summer further limit ventilation. Because of the low average wind speeds in the summer and a persistent daytime temperature inversion, emissions of hydrocarbons and oxides of nitrogen have an opportunity to combine with sunlight in a complex series of reactions producing photochemical oxidant (smog). The smog potential is increased in the basin, because the South Coast region experiences more days of sunlight than any other major urban area except Phoenix, Arizona.

Glendora has a Mediterranean climate, with cool wet winters and hot dry weathers. The ocean plays an important role in affecting local temperatures. As a result of the fairly narrow spread between the warmest and coldest monthly mean sea surface temperature in southern California coastal waters, the

relatively warm ocean modifies the climate in Glendora in winter and provides cooling sea breezes in summer. Temperatures range from 60 degrees Fahrenheit during the winter months, to over 90 degrees during the summer, and days over 100 degrees are not uncommon. Average annual precipitation is approximately 22 inches, with the majority of the rain falling in the winter months.

The dominant daily wind pattern within the project area is characterized by a daytime sea breeze and a nighttime land breeze. During the day, wind direction is from the northeast and the coast to the southwest. As night approaches, the wind generally slows and reverses direction, blowing to the northeast towards the coast. Occasional winter storms and the Santa Ana winds (strong northeasterly winds that blow from the mountains and deserts north of the Basin to the coast) breaks the dominant wind patterns. Further, during the transition period from one wind pattern to another, the dominant wind direction rotates into the south and causes a minor wind direction change. Calm winds of less than two miles per hour occur less than 10 percent of the time and, as a result, there is little stagnation in the Glendora area, especially during daily peak traffic.

4.2 Local Ambient Air Quality

Local air quality in Glendora is influenced by the presence of the Foothill Freeway (I-210) that traverses the City. The freeway carries a large amount of regional traffic, and thus, generates large amounts of vehicular emissions from both automobiles and trucks.

The SCAQMD operates several air quality monitoring stations within the Air Basin. The City of Glendora is located within Source Receptor Area (SRA) 9. The communities within an SRA are expected to have similar climatology and subsequently, similar ambient air pollutant concentrations.

The Glendora-Laurel Monitoring Station is the nearest air monitoring station to the project site. The data collected at this station is considered to be representative of the air quality experienced in the project vicinity. Air quality data from 2002 to 2006 for the Glendora-Laurel Monitoring Station is provided in *Table AQ-2*, *Local Air Quality Levels*. The Glendora-Laurel Monitoring Station does not monitor all criteria pollutants, and therefore it was necessary to obtain data regarding CO, PM_{10}, and $PM_{2.5}$ at the Azusa Monitoring Station.

Air Pollution Constituents

Air pollution is anything that pollutes the atmosphere and consists of various components from numerous sources.

Ozone (O_3)

Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" ozone layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

Table AQ-2
Local Air Quality Levels

Pollutant	California Standard	Federal Primary Standard	Year	Maximum[3] Concentration	Days (Samples) State/Federal[3] Std. Exceeded
Ozone[1] (1-hour)	0.09 ppm for 1 hour	NA	2002 2003 2004 2005 2006	0.152 ppm 0.162 0.134 0.160 0.175	45/12 61/22 42/5 31/8 37/11
Ozone[1, 6] (8-hour)	0.07 ppm for 8 hours	0.08 ppm for 8 hours	2002 2003 2004 2005 2006	0.114 ppm 0.134 0.107 0.130 0.127	NA/21 NA/40 NA/16 NA/11 NA/15
Carbon Monoxide[2] (8-hour)	9.0 ppm for 8 hour	9.0 ppm for 8 hour	2002 2003 2004 2005 2006	2.39 ppm 2.54 1.95 1.51 1.70	0/0 0/0 0/0 0/0 0/0
Nitrogen Dioxide[1] (1-hour)	0.18 ppm for 1 hour	0.030 ppm annual average	2002 2003 2004 2005 2006	0.102 ppm 0.119 0.117 0.087 0.099	0/NA 0/NA 0/NA 0/NA 0/NA
PM_{10} [2,4,5]	50 µg/m^3 for 24 hours	150 µg/m^3 for 24 hours	2002 2003 2004 2005 2006	89.0 µg/m 117.0 82.0 76.0 81.0	22/0 20/0 7/0 10/0 7/0
$PM_{2.5}$ [2,5]	No Separate Standard	35 µg/m^3 for 24 hours	2002 2003 2004 2005 2006	53.4 µg/m 58.5 50.6 49.4 52.7	NA/1 NA/3 NA/1 NA/1 NA/0

Source: Aerometric Data Analysis and Measurement System (ADAM), summaries from 2002 to 2006, http://www.arb.ca.gov/adam.

ppm = parts per million
µg/m^3 = micrograms per cubic meter
NA = not applicable, due to the absence of an applicable threshold
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less

Notes:
1. Data is based on measurements taken at the Glendora-Laurel monitoring station located at 840 Laurel Avenue, Glendora California, 91741.
2. Data is based on measurements taken at the Azusa monitoring station located at 803 North Loren Avenue, Azusa California, 91702.
3. Maximum concentration is measured over the same period as the California Standard.
4. PM_{10} exceedances are based on state thresholds established prior to amendments adopted on June 20, 2002.
5. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.
6. The 8-hour standards were not established until April 28, 2005; therefore no state exceedances were recorded.

"Bad" ozone is a photochemical pollutant, and needs volatile organic compounds (VOCs), NO_X, and sunlight to form; therefore, VOCs and NO_X are ozone precursors. VOCs and NO_X are emitted from various sources throughout the City. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors. Significant ozone formation generally requires an adequate

amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While ozone in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone (in the troposphere) can adversely affect the human respiratory system and other tissues. Many respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to high ozone levels. Ozone also damages natural ecosystems (such as forests and foothill plant communities), agricultural crops, and some man-made materials (such as rubber, paint and plastics). Societal costs from ozone damage include increased healthcare costs, the loss of human and animal life, accelerated replacement of industrial equipment, and reduced crop yields.

The 1-hour O_3 levels ranged from 0.134 parts per million (ppm) to 0.175 ppm from 2002 to 2006 at the Glendora-Laurel Monitoring Station. The 8-hour O3 levels between 2002 and 2006 averaged 0.122 ppm. The State 8-hour standard for O_3 is 0.07, and was approved by the CARB on April 28, 2005. The exceedances for the State standards have not yet been provided by the CARB. The Federal standard for O_3 is 0.12 ppm, averaged over one hour, and was exceeded 103 times between 2002 and 2006.

Carbon Monoxide (CO)

Carbon monoxide (CO) is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. At high concentrations, CO can reduce the oxygen-carrying capacity of the blood and cause headaches, dizziness, unconsciousness, and death. The Basin is designated as a non-attainment area for State CO standards (within Los Angeles County), but is designated as an attainment area for Federal CO standards.

Nitrogen Dioxide (NO_2)

Nitrogen oxides (NO_X) are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone, and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations).

NO_X can irritate and damage the lungs, and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_X concentrations that are typically much higher than those normally found in the ambient air, may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction. The NO_2 ambient air quality standard was amended on February 22, 2007 to lower the State 1-hour standard to 0.18 ppm and establish a new Federal annual standard

of 0.030 ppm. These changes become effective after regulatory changes are submitted and approved by the Office of Administrative Law, expected later this year. The entire Basin is designated as an attainment area for State and Federal NO_2 standards.

Coarse Particulate Matter (PM_{10})

Particulate matter pollution consists of very small liquid and solid particles floating in the air, and is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. Particulate matter also forms when gases emitted from motor vehicles and industrial sources undergo chemical reactions in the atmosphere. Some particles are large or dark enough to be seen as soot or smoke; others are so small that they can be detected only with an electron microscope. PM_{10} particles are less than or equal to 10 microns in aerodynamic diameter.

In the western United States, there are sources of PM_{10} in both urban and rural areas. PM_{10} is typically emitted from stationary and mobile sources, including diesel trucks and other motor vehicles, power plants, industrial processing, wood- burning stoves and fireplaces, wildfires, dust from roads, construction, landfills, agriculture, and fugitive windblown dust.

PM_{10} particles are small enough to be inhaled into, and lodge in, the deepest parts of the lung. Health problems begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. Non-health-related effects include reduced visibility and soiling of buildings.

The State standard for PM_{10} is 50 micrograms per cubic meter (μg/m3) averaged over 24 hours; this standard was exceeded 66 days at the Azusa Monitoring Station between 2002 and 2006. The Federal standard for PM_{10} is 150 $\mu g/m^3$ averaged over 24 hours; this standard was not exceeded between 2002 and 2006.

Fine Particulate Matter ($PM_{2.5}$)

$PM_{2.5}$ particles are less than or equal to 2.5 microns in aerodynamic diameter, and are a subset (portion) of PM_{10}. On January 5, 2005, the EPA published a Final Rule, in the Federal Register that designates the Basin as a nonattainment area for Federal $PM_{2.5}$ standards. On June 20, 2002, the CARB adopted amendments for statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by the CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.

At the Azusa Monitoring Station, there were six exceedances between 2002 and 2006. For $PM_{2.5}$, the Federal standard is 35 $\mu g/m^3$ over 24 hours. There is no separate State standard for $PM^{2.5}$.

Sulfur Dioxide and Lead

Sulfur Dioxide (SO_2) is a colorless, irritating gas with a "rotten egg" smell formed primarily by the combustion of sulfur-containing fossil fuels. Lead is a metal that is a natural constituent of air, water and the biosphere. Lead is neither created nor destroyed in the environment. SO_2 is often used interchangeably with sulfur oxides (SO_X) and lead (Pb). Sulfur dioxide levels in all areas of the Basin do not exceed Federal or State standards. The Basin is designated as attainment for both State and Federal SO_2 standards. Since ambient concentrations of lead have decreased in the Basin, the SCAQMD no longer monitors the presence of lead in ambient air.

Reactive Organic Gases and Volatile Organic Compounds

Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including reactive organic gases (ROGs) and volatile organic compounds (VOCs). ROGs comprise all hydrocarbons except those exempted by the CARB. Therefore, ROGs are a set of organic gases based on State rules and regulations. VOCs are similar to ROGs in that they comprise all organic gases except those exempted by federal law. VOCs are therefore a set of organic gases based on federal rules and regulations. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions and paint (via evaporation).

Global Climate Change Gases

The natural process through which heat is retained in the troposphere is called the "greenhouse effect."[3] The greenhouse effect traps heat in the troposphere through a three fold process as follows: Short wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long wave radiation; and greenhouse gases in the upper atmosphere absorb this long wave radiation and emit this long wave radiation into space and toward the Earth. This "trapping" of the long wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

Without the greenhouse effect, the Earth's average temperature would be approximately negative 18 degrees Celsius (°C) (0° Fahrenheit [°F]) instead of its present 14°C (57°F). The most abundant greenhouse gases are water vapor and carbon dioxide. Many other trace gases have greater ability to absorb and re radiate long wave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of greenhouse gases, scientists have established a Global Warming Potential for each greenhouse gas based on its ability to absorb and re radiate long wave radiation. The Global Warming Potential of a gas is determined using carbon dioxide as the reference gas with a Global Warming Potential of 1.

3. The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

Greenhouse gases include, but are not limited to, the following:[4]

Water Vapor (H_2O). Although water vapor has not received the scrutiny of other greenhouse gases, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers and transpiration from plants, contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively. The primary human related source of water vapor comes from fuel combustion in motor vehicles; however, this is not believed to contribute a significant amount (less than 1 percent) to atmospheric concentrations of water vapor. The Intergovernmental Panel on Climate Change has not determined a Global Warming Potential for water vapor.

Carbon Dioxide (CO_2). Carbon dioxide is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, the concentration of carbon dioxide in the atmosphere has increased 35 percent.[5] Carbon dioxide is the most widely emitted greenhouse gas and is the reference gas (Global Warming Potential of 1) for determining Global Warming Potentials for other greenhouse gases. In 2004, 83.8 percent of California's greenhouse gas emissions were carbon dioxide.[6]

Methane (CH_4). Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three sources of methane come from landfills, natural gas systems, and enteric fermentation. Methane is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The Global Warming Potential of methane is 21.

Nitrous Oxide (N_2O). Nitrous oxide is produced by both natural and human related sources. Primary human related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The Global Warming Potential of nitrous oxide is 310.

Hydrofluorocarbons (HFCs). HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing as the continued phase out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The Global Warming Potential of HFCs range from 140 for HFC-152a to 6,300 for HFC-236fa.

Perfluorocarbons (PFCs). Perfluorocarbons are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semi conductor manufacturing. Perfluorocarbons are potent greenhouse gases with a Global Warming Potential several thousand times that of carbon dioxide, depending on the specific PFC. Another area of concern regarding PFCs

4. All Global Warming Potentials are given as 100 year GWP. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. Climate Change (Intergovernmental Panel on Climate Change, *Climate Change, The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC*, 1996).

5. United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 to 2004, April 2006*. <http://www.epa.gov/climatechange/emissions/usinventoryreport.html>

6. California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004, December 2006*. <http://www.energy.ca.gov/2006publications/CEC 600 2006 013/CEC 600 2006 013 SF.PDF>

is their long atmospheric lifetime (up to 50,000 years).[7] The Global Warming Potential of PFCs range from 5,700 to 11,900.

Sulfur Hexafluoride (SF_6). Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent greenhouse gas that has been evaluated by the Intergovernmental Panel on Climate Change with a Global Warming Potential of 23,900. However, its global warming contribution is not as high as the Global Warming Potential would indicate due to its low mixing ratio compared to carbon dioxide (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm]).[8]

In addition to the six major greenhouse gases discussed above (excluding water vapor), many other compounds have the potential to contribute to the greenhouse effect. Some of these substances were previously identified as stratospheric ozone depletors; therefore, their gradual phase out is currently in effect. The following is a listing of these compounds:

Hydrochlorofluorocarbons (HCFCs). HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, all developed countries that adhere to the Montreal Protocol are subject to a consumption cap and gradual phase out of HCFCs. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The Global Warming Potentials of HCFCs range from 93 for HCFC-123 to 2,000 for HCFC-142b.[9]

1,1,1Trichloroethane. 1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers. In 1992, the Environmental Protection Agency issued a Final Rule (57 FR 33754) scheduling the phase out of methyl chloroform by 2002. Therefore, the threat posed by methyl chloroform as a greenhouse gas will diminish. However, the Global Warming Potential of methyl chloroform is 110 times that of carbon dioxide.[10]

Chlorofluorocarbons (CFCs). CFCs are used as refrigerants, cleaning solvents, and aerosols spray propellants. CFCs were also part of the Environmental Protection Agency's Final Rule (57 FR 3374) for the phase out of ozone depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning solvents. Nevertheless, CFCs remain

7. Energy Information Administration, *Other Gases: Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride*, October 29, 2001. <http://www.eia.doe.gov/oiaf/1605/gg00rpt/other_gases.html>
8. United States Environmental Protection Agency, *High GWP Gases and Climate Change*, October 19, 2006. <http://www.epa.gov/highgwp/scientific.html#sf6>
9. United States Environmental Protection Agency, *Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances*, November 7, 2006. <http://www.epa.gov/fedrgstr/EPA AIR/1996/January/Day 19/pr 372.html>
10. United States Environmental Protection Agency, *Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances*, November 7, 2006. <http://www.epa.gov/fedrgstr/EPA AIR/1996/ January/Day 19/pr 372.html>

suspended in the atmosphere contributing to the greenhouse effect. CFCs are potent GHGs with Global Warming Potentials ranging from 4,600 for CFC 11 to 14,000 for CFC 13.[11]

Ozone. Ozone occurs naturally in the stratosphere where it is largely responsible for filtering harmful ultraviolet (UV) radiation. In the troposphere, ozone acts as a greenhouse gas by absorbing and re-radiating the infrared energy emitted by the Earth. As a result of the industrial revolution and rising emissions of oxides of nitrogen (NO_X) and volatile organic compounds (VOCs) (ozone precursors), the concentrations of ozone in the troposphere have increased. Due to the short life span of ozone in the troposphere, its concentration and contribution as a greenhouse is not well established. However, the greenhouse effect of tropospheric ozone is considered small, as the radiative forcing of ozone is 25 percent of that of carbon dioxide.[12]

4.3 Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than are the general population. Sensitive populations (sensitive receptors) who are in proximity to localized sources of toxins and carbon monoxide are of particular concern. Land uses that are considered sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers and retirement homes. Sensitive receptors within the City of Glendora have been listed in *Table AQ-3*, *Sensitive Receptors*.

Table AQ-3
Sensitive Receptors

RECEPTOR	LOCATION
Institutional:	
Hope Lutheran Church	1041 E. Foothill Blvd
Mar Thoma Church of Los Angeles	134 S. Vista Bonita Avenue
Grace Episcopal Church	555 E. Mountain View Avenue
Church of the Brethren	150 S. Vermont Avenue
Glendora Grace Lutheran Church	804 E. Foothill Blvd.
United Methodist Church	201 E. Bennett Avenue
Church of the Open Door	701 W. Sierra Madre Avenue
Reason to Believe	731 E. Arrow Highway
First Christian Church	300 N. Glendora Avenue
Cornerstone Bible Church	400 N. Glendora Avenue
Glendora Alliance Church	116 E. Carroll Avenue
The Church of Jesus Christ of Latter-Day Saints	955 W. Foothill Blvd.
Christian Science Church	151 N. Glendora Avenue

11. United States Environmental Protection Agency, *Class I Ozone Depleting Substances*, March 7, 2006. <http://www.epa.gov/ozone/ods.html>
12. Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, February 2007.

Table AQ-3
Sensitive Receptors (Continued)

RECEPTOR	LOCATION
Grace Church of Glendora Preschool	1515 S. Glendora Avenue
Cullen Elementary School	440 N. Live Oak
La Fetra Elementary School	547 W. Bennett
Sellers Elementary School	500 N. Loraine Avenue
Stanton Elementary School	725 S. Vecino Avenue
Sutherland Elementary School	1330 N. Amelia
Williams Elementary School	301 S. Loraine Avenue
Goddard Middle School	859 E. Sierra Madre
Sandburg Middle School	819 W. Bennett
Glendora High School	1600 E. Foothill Blvd.
Whitcomb High School	350 W. Mauna Loa
Arrow High School	1505 S. Sunflower
Washington Elementary	325 W. Gladstone
Willow Elementary	1427 S. Willow
Citrus Community College	1000 West Foothill Boulevard
Glendora Public Library	140 S. Glendora Avenue
Foothill Presbyterian Hospital	250 S. Grand Avenue
Huntington East Valley Hospital	150 W. Route 66
Arbor Glen Care Center	1033 E. Arrow Highway
Emmanuel health Care & Rehabilitation Center	805 W. Arrow Highway
Foothill Nursing and Rehabilitation Center	401 W. Ada Avenue
YMCA: Glendora	505 N. Grand Avenue
PARKS:	
Dawson Avenue Park (5.44 acres)	201 Dawson Avenue
Sandburg School Park (12.19 acres)	Leadora Avenue & Wildwood Avenue
Big Tree Park (0.34 acres)	665 S. Santa Fe Avenue
Gladstone Park (8.37 acres)	600 E. Gladstone Avenue
Ole Hammer Park (1.74 acres)	362 N. Live Oak Avenue
Finkbiner Park	160 N. Wabash Avenue
George Manooshian School Park	E. Palm Drive & N. Loraine Avenue
Willow Springs Park (1.21 acres)	515 N. Willow springs Lane
South Hills Park (3.00 acres)	701 E. Mauna Loa Avenue
Rainbird Park (4.66 acres)	
C.E. Equestrian Park (2.11 acres)	1000 N. Glendora Mountain Road
Centennial Park (0.90 acres)	725 E. Mauna Loa Avenue

5.0 PLANNING CONSIDERATIONS, GOALS, AND POLICIES

Air quality is a regional issue affecting the entire Basin, which includes the City of Glendora. The Basin has been in violation with state and federal air quality standards for the past several years. In an effort to attain air quality standards, this section of the Glendora Air Quality Element identifies goals and policies to reduce the generation of pollutants. Specifically, this section focuses on improving air quality through the reduction of total air emissions, education of the public on pollution control measures and encouraging the best use of available technologies.

REGIONAL COORDINATION

Planning Consideration: For all air quality planning issues, the City of Glendora is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). The City of Glendora understands that local air quality issues must be coordinated with regional planning to ensure the implementation of regional and state air quality mandates.

Goal	**AQ-1**	**Coordination with Regional, State and Federal Agencies.**
Policies	AQ-1.1	Encourage the construction of regional transportation facilities such as HOV lanes, Metrolink, bus routes, and pedestrian and bicycle facilities.
	AQ-1.2	Support SCAG's Regional Growth Management Plan by developing intergovernmental agreements with appropriate governmental entities and those sub-regional entities identified in the Regional Growth Management Plan.
	AQ-1.3	Develop and adopt a policy to utilize federal Congestion Mitigation and Air Quality Improvement funds in coordination with regional agencies in a manner consistent with projects approved in the Air Quality Management Plan.

TRANSPORTATION, LAND USE AND AIR QUALITY

Planning Consideration: Automobile use in Southern California is a necessity for most residents. This reliance on the automobile for transportation impacts air quality. Glendora understands reductions in automobile demand through trip reduction and alternative transportation can provide a significant reduction in air quality impacts. Planning decisions contribute to air quality by influencing the distribution, density and location of housing, employment, transportation facilities and other land uses within the City of Glendora. Consideration of air quality impacts should be a consideration in all land use planning and transportation decisions in Glendora.

Goal	**AQ-2**	**Reduction of vehicular trips.**
Policies	AQ-2.1	Reduce mobile source emissions by encouraging a reduction in project-related vehicle trips and vehicle miles traveled (VMT).
	AQ-2.2	Reduce mobile source emissions by increasing population densities within one-half mile of transit nodes.
	AQ-2.3	Encourage "walkable" neighborhoods with pedestrian walkways and bicycle paths in residential and other types of developments to encourage pedestrian rather than vehicular travel.
	AQ-2.4	Promote and encourage ride-sharing activities throughout the community.
Goal	**AQ-3**	**Integrated land use and transportation planning.**
Policies	AQ-3.1	Promote mixed use development that allows the integration of residential, retail, office and/or institutional uses for the purpose of maximizing the use of land.
	AQ-3.2	Avoid placing residential and other sensitive receptors in close proximity to businesses (commercial or industrial) that emit toxic or harmful air contaminants to the greatest extent possible.
	AQ-3.3	Encourage future commercial areas to foster pedestrian circulation through the land use entitlement process.
Goal	**AQ-4**	**Protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of pollution with equitable environmental policymaking and enforcement.**
Policies	AQ-4.1	Evaluate potential environmental justice issues by requiring a review of environmental impacts for potential development projects.
	AQ-4.2	Separate, buffer, and protect sensitive receptors from significant sources of pollution to the greatest extent possible.
	AQ-4.3	Encourage the participation of the business community, civic groups, special interest groups, and the general public in the formulation and implementation of programs that effectively reduce air pollution.

Goal	**AQ-5**	**Promotion of alternative transportation modes.**
Policies	AQ-5.1	Promote and encourage the use of public transit, such as the Metrolink and local bus lines.
	AQ-5.2	Support the future development and use of the Metro Rail Gold Line station in Glendora.
	AQ-5.3	Promote telecommuting and modified work schedules as a method of trip reduction.

REDUCE ENERGY CONSUMPTION

Planning Consideration: Energy consumption influences air quality. Conservation of energy resources can provide a significant impact on the reduction of emissions. Glendora understands that methods and strategies for energy conservation can contribute the improvement of regional air quality.

Goal	**AQ-6**	**Reduced demand for energy resources.**
Policies	AQ-6.1	Promote energy conservation throughout the City.
	AQ-6.2	Educate and encourage Glendora residents and business owners on opportunities for reduced energy consumption.
	AQ-6.3	Develop new incentives and promote existing incentives that encourage the use of energy conservation strategies by private and public developments.
	AQ-6.4	Promote energy-efficient design features, including appropriate site orientation, use of lighter color roofing and building materials, and use of deciduous shade trees and windbreak trees to reduce fuel consumption for heating and cooling.
	AQ-6.5	Provide incentives for "green building" programs that go beyond the requirements of Title 24 of the *California Administrative Code* and encourage energy efficient design elements as appropriate.
	AQ-6.6	Utilize all available renewable energy sources to reduce fuel consumption and demand on the power grid.

	AQ-6.6	Require all project applications to identify project energy demands, existing energy supplies, potential environmental impacts associated with energy use, and feasible energy efficiency measures, in accordance with Appendix F of the *California Environmental Quality Act Guidelines*.
Goal	**AQ-7**	**Reduced pollutant emissions from stationary sources, including point sources and area sources.**
Policies	AQ-7.1	Require residential building construction to comply with energy use guidelines in Title 24 of the California Administrative Code.
	AQ-7.2	Require projects to mitigate anticipated emissions that exceed Air Quality Management Plan Guidelines.
	AQ-7.3	Support the SCAQMD's efforts to require stationary air pollution sources, such as gasoline stations, restaurants with charbroilers and deep fat fryers, to comply with and exceed applicable SCAQMD rules and control measures.